DOCUMENT RESUME

ED 362 998 EA 025 369

AUTHOR Kustaa, Friedrich Freddy
TITLE Male-Female Salary Differentials in Educational Compensation: Problems in the Economics of Education.
PUB DATE 89
NOTE 26p.
PUB TYPE Viewpoints (Opinion/Position Papers, Essays, etc.) (120)

EDRS PRICE MF01/PC02 Plus Postage.
DESCRIPTORS *Compensation (Remuneration); Educational Attainment; Elementary Secondary Education; Higher Education; *Promotion (Occupational); Public Education; *Salary Wage Differentials; Sex Differences; *Sex Discrimination; *Teacher Salaries; Teaching (Occupation); Teaching Experience

ABSTRACT

This paper provides a synthesis of literature pertaining to differentials in earnings between male and female teachers at the elementary, secondary, and higher levels of education. In addition to sex discrimination, other factors of unequal compensation are examined, some of which include teaching experience, educational preparation, teacher productivity, marital status, and occupational segregation. A review of the research finds that, overall, the findings are inconclusive, although data suggest that a subtle form of sex discrimination exists. Problems in measuring the exact portion of the sex differential in compensation are identified: (1) findings that are often based on aggregate rather than longitudinal data, or on case studies; (2) failure to compensate for the unequal representation of women in the same occupation under study; and (3) failure to consider the shorter lifetime earnings of women. The studies do suggest that some progress has been made with regard to increasing the average earnings of women. Suggestions to eliminate the gender-based salary gap include: increase job skills for women; increase educational attainment for women; and eliminate job segregation. (LMI)

****
* Reproductions supplied by EDRS are the best that can be made *
* from the original document. *
****

EA

ED 362 998

MALE-FEMALE SALARY DIFFERENTIALS IN EDUCATIONAL COMPENSATION: PROBLEMS IN THE ECONOMICS OF EDUCATION

By

Friedrich Freddy Kustaa

Innovative Programs in Education
College of Education
The University of New Mexico
941 Buena Vista Dr. S.E. G206
Albuquerque, New Mexico 87106

U.S. DEPARTMENT OF EDUCATION
Office of Educational Research and Improvement
EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)

☑ This document has been reproduced as received from the person or organization originating it.

☐ Minor changes have been made to improve reproduction quality.

• Points of view or opinions stated in this document do not necessarily represent official OERI position or policy.

"PERMISSION TO REPRODUCE THIS MATERIAL HAS BEEN GRANTED BY

F. Kustaa

TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)."

Fall 1993

EA 025369

BEST COPY AVAILABLE

INTRODUCTION

This article investigates the issue of sex differentials in teacher occupational markets. Primarily the article seeks to provide a synthesis of the literature pertaining to male-female earnings differentials in teachers' occupational markets at the elementary, secondary and higher education levels. At the elementary and secondary levels, particular emphasis is placed on the single salary schedule in an attempt to determine whether or not salary differentials between male and female teachers in public education can be attributed to sex discrimination or other factors such as experience, educational preparation, teachers's productivity, marital status and occupational segregation. Particular emphasis is also placed on the possible factors which cause sex differentials among educational administrators in the public schools.

With regard to higher education the article attempts to determine whether sex differences in compensation can be attributed to sex discrimination, occupational segregation, teachers productivity, fields of employment within education, seniority, and so forth. Finally, the article concludes with an assessment of the magnitude of the overall gap between the salaries of male and female workers in education and points out the existing problems and the progress which has been made in closing the salary gap between males and females over the last several years.

It should be state early on that given the volume of the literature on the subject of gender differences in educational compensation not all the articles and research reports that were analyzed can be discussed here. However, in light of its scope, the article will only deal with the research findings of some of the articles that are more pertinent to the topic at hand.

One of my main purposes in this article is to discuss the research findings both pro and con and review existing data, major events, methods, philosophical positions, practices, programs, policies, and so forth. Nevertheless, it should be pointed out that although the articles in the area of economics of education utilize various methodological techniques, the majority of them are based on the multiple regression technique which is considered to be the most effective in analyzing gender differences in faculty salaries (Hengstler, 1982). Multiple regression is a statistical technique which measures the relationship between a criterion, say salary, and a set of predictors (independent variables) which are presumed to have a direct relationship with the criterion. According to Hengstler (1982), the major advantage of multiple regression technique is that it determines not only whether a particular predictor (e.g. gender) influences the criterion (e.g. salary), but also how much the predictor influences the criterion, that is, it assigns a number called a beta weight approximating how much the value of a given predictor should be weighted in the

formula estimating the actual salary of the individual.

THE NATURE OF GENDER RELATED SALARY DIFFERENTIALS

According to Oaxaca (1987), the existence of a salary gap between the earnings of male and female workers in the economy as a whole and in education is widely recognized. Oaxaca points out that the gender earnings differentials are the measured earnings gaps between male and female workers. Further, Oaxaca explains that these salary gaps are ordinarily expressed in terms of either proportionate (percentage) differences or ratios. In other words, in this framework the absolute difference in average earnings between men and women is expressed as a percentage of either the average earnings of men or the average earnings of women.

Several researchers posit that the overall gender earnings differential is estimated to be in the neighborhood of 60 percent (Malkiel and Malkiel, 1973; Smith, 1985; Budig, 1986). In other words, the typical working woman is thought to make approximately 60 cents for every dollar that a typical working man makes. However, the existence of this universal gender differential in earnings as Oaxaca (1987) points out "has elicited several competing though not necessarily mutually exclusive explanations from several social scientists" (p. 228). In this regard, one of the main challenges to social scientists has been to analyze the gender differential in occupational earnings in order to determine whether such a salary gap is primarily due to sex

discrimination or s due to other factors such as experience, and differences in the productivity of men and women. In particular, one of the main concerns of social scientists has been to specify what portion of the male-female salary differential is exactly due to sex discrimination and what portion is due to other explained and unexplained factors. In the studies cited below it appears that the efforts of social scientists in this regard have given us mixed results.

GENERAL MALE-FEMALE SALARY DIFFERENTIALS IN THE ECONOMY

Before discussing the gender differentials in educational compensation it is useful to discuss first the findings of studies pertaining to the general salary differential between the earnings of men and women in the economy as a whole. According to Pounder (1985) and Milkovich (1981), the general model for determining wage and salary discrimination has been to estimate the portion of the male-female differential that is attributable to work related factors and then infer the remaining portion that is due to sex discrimination. Pounder (1985), for instance, finds that studies using this model have suggested that the portion of the wage differential due to wage discrimination ranges from 12 to 70 percent, depending on the samples, methods and data sources used. According to Pounder (1985), studies using this model are flawed because they measure few work related factors, and that such an approach accounts for the greater male-female salary differential attributed to sex

discrimination. Like Pounder (1985), Cohn (1979) posits that while this salary differential may suggest a potential sex bias, descriptive statistics alone do not adequately provide conclusive evidence of sex discrimination in the determination of wages.

Malkiel and Malkiel (1973) support the analysis of Pounder (1985) and Cohn (1979) and argue that gross differences in average salaries between men and women do not necessarily indicate the presence of pure discrimination. The Malkiel and Malkiel argument is based on their micro economic study which analyzed salary differentials among a sample of 272 professional employees of a single corporation. According to the authors this micro economic study is advantageous because the employer in question hires large numbers of men and women doing the same range of jobs. The reasoning behind this case study is that a measure of the extent of sex discrimination can be obtained holding occupation constant. In other words, Malkiel and Malkiel suggest that many studies have not been able to hold occupation constant because men are seldom employed in occupations employing a large number of women and vice versa.

Furthermore, Malkiel and Malkiel (1973) find that women's salaries have consistently averaged only about two thirds of the salaries of men. In their analysis the gross difference between the salaries of men and women, $7,000 in 1971, should not be attributed to sex discrimination. Further, the authors argue that almost half of the male-

female earnings differential can be attributed to different characteristics of men and women in the sample. The remaining half of the earning differential is said to remain unexplained and may be attributed to either sex discrimination or other factors which they were unable to measure. In addition, this study indicates that in the sample women are less endowed with the characteristics preferred by the organization such as education, related experience, seniority, and low absence rates. This study then specifically finds that experience, education, and productivity variables are able to explain over three quarters of the variance in salaries for both men and women over several years.

By and large, one of the interesting findings of Malkiel and Malkiel (1973), is the suggestion that the source of any discrimination against women may be said to result from job assignments rather than pay differentials between men and women doing the same jobs. According to the findings of the authors, women can be expected to be 1.31 level steps lower than men in occupational rank because of their lower level of education, related experience, and so forth. In this connection the authors also stress that their study finds that men and women in equal job levels, with the same characteristics get equal pay while women and men with equal characteristics in different occupations do not get equal pay.

It is interesting though that Malkiel and Malkiel (1973) suspect that higher rates of job assignments of males to higher occupational rank may not, by themselves, reflect discrimination. In their view, other explanations for this phenomenon may be related to preferences of men and women for more or less responsibility or biases resulting from culture and tradition which may affect productivity characteristics. Finally, the authors conclude that it would be difficult for a discriminating organization to give male and female employees the same titles and offer them different pay scales. In their reasoning it is far easier for an organization to assign women to lower job levels and then set up a pay structure by level that is the same for both sexes.

MALE-FEMALE SALARY DIFFERENTIALS IN PUBLIC SECONDARY AND ELEMENTARY EDUCATION

In public education at the elementary and secondary levels, the question which is often posed by researchers is how and why there are sex differentials in teachers' salaries when the public school system utilize the single salary schedule in which theoretically sex discrimination is ruled out. The single salary schedule was introduced in public schools about fifty years ago (Cohn, 1979). The single salary schedule, as Cohn notes, basically stipulates that a basic salary be paid to all teachers irrespective of sex who have no previous teaching experience, but who have completed an accredited program of training. In addition to these stipulations, the single salary schedule requires that

increments are then paid to those teachers whose training exceeds the minimum required for the basic salary and to those teachers who have a given number of years of previous teaching experience (Cohn, 1979).

As a matter of fact, Cohn (1979) has done an extensive review of studies pertaining to public schools. In this study Cohn indicates that Levin (1970) examined data from the Coleman Report for 2,921 teachers and found large male and female earnings differentials. According to Cohn (1979), Levin (1970) found that factors influencing teachers' salaries include: verbal score, sex, years of schooling, type of college from which the teacher graduated, years of experience, certification level and the teacher's major in college. Levin also found that, all things being equal, female teachers earned $400 less than males, each extra year of experience was worth about $79 and each extra year of schooling was associated with an extra $400 in salary (Cohn, 1979).

Another study which Cohn (1979) reviewed is that of De Tray and Greenberg (1977) which used 1971-1972 data from San Diego. The De Tray and Greenberg's study includes three explanatory variables in the equation: sex, years of service, and a Masters' degree. This study, according to Cohn, shows that females earned $188 less than males but when the variable measuring educational preparation (Masters degree) was changed into five categories, the co-efficient of the female variable showed that females earned only $7 less

then males. Cohn (1979) also points out that De Tray and Greenberg (1977) explicitly state that the $7 difference between the earnings of male and female teachers would disappear if teaching experience was entered into the formula in a more complicated form than just years of experience.

MALE-FEMALE SALARY DIFFERENTIALS IN EDUCATIONAL ADMINISTRATION

The other important field of employment in public education which is of great interest to social scientists with regard to male-female earnings differentials is educational administration. One peculiar feature of the fields of educational administration is that is it is only 10 percent female while the teaching profession is approximately 70 percent female (Pounder, 1985). In educational administration as well researchers provide conflicting conclusions about why sex differentials in earnings exist or what portion of the salary differential is due to sex discrimination. Gupta (1983) finds that for the occupation of school administration (elementary and secondary), the median weekly earnings of female administrators is reported to be approximately 61 percent of the earnings of male administrators.

Gupta (1983) analyzes the salary gap between the average earnings of male and female administrators and comes to the conclusion that there are barriers that work to keep women in

traditional low paying position within the work world, and at lower levels of organizational hierarchies within education. According to Gupta, these barriers can be outlined in three general categories, namely: interpersonal barriers; personality characteristics; and background influences and characteristics. In this framework, the major interpersonal barriers are sex stereotyping and intergroup polarization patterns. These occupational barriers, as Gupta argues, function to perpetuate myths and biases about women's abilities and group women together in such a way that all women suffer from the failure of a few. Likewise, the background influences and socialization patterns function to inhibit interpersonal interaction between men and women and particularly the dominant groups which the author says tend to be white males.

Further, Gupta points out that organizational and structural barriers occur in many aspects of an agency's functions such as recruitment, selection, placement, evaluation, giving rewards, use of power and authority, and other norms and expectations. In light of all this, Gupta suggests that if educational and occupational equity are to be achieved, it is imperative that the occupational barriers be removed. Some of Gupta's strategies for combating these barriers are consciousness raising, career planning, management training, information sharing, mentoring, networking, and retraining.

Another 1985 study which partially overlaps with the

1983 study of Gupta is that by Stone (1985). Stone analyzes the determinants of the 1980-81 salaries of educators who became principals and vice principals in public schools after 1971-72 and focuses on salary differences for men and women. In this study Stone finds that the results pertaining to this cohort of administrators indicate that education, experience and district environment variables are significant determinants of the salaries and that there are significant differences between men and women in the determination of salaries. This finding, according to Stone, stands in sharp contrast to previous studies which has found a small salary gap and is, in part, due to the decomposition of total experience into teaching and various administrative components.

Nevertheless, it is important to note that Pounder (1985) takes issue with the findings of Stone (1985) and those who agree with him. For example, Pounder agrees with Stone that the salary gap between the average earnings of men and women exists in the field of educational administration. However, Pounder takes issue with the suggestion of Stone and others that male-female earnings differentials in educational administration are more due to factors such as education and experience rather than sex discrimination.

In a study of 11 public schools in a Midwestern state Pounder (1985) determined the extent to which sex bias accounts for the remaining administrators' salary differences. Twenty female and 88 male elementary school

principals made up the sample. In this study professional experience is found to account for 16 percent of the variance in compensation; educational level accounts for less than one percent; and gender accounts for 25 percent of the variance. Pounder argues that given the recent developments in education over the last decades such as the strengthening of certification laws in most states applicable to all teachers (male and female), it is not a surprise that the level of education in the study accounts for less than one percent.

Further, Pounder (1985) makes some observations in an attempt to explain the relatively high variance of 25 percent accounted for by gender in her study. The study finds that the 25 percent variance is due more to sex discrimination in position assignment rather than sex discrimination per se. In other words, this study posits that a type of position discrimination exists in educational administration due to the fact that women are clustered into the elementary principalship and central office positions.

According to Pounder (1985), position segregation in educational administration as in other sectors of employment is said to be further compounded by the fact that women are appointed to supervisory positions which often have different job titles with lower pay and status than the positions in which men are clustered. In this connection, for example, Pounder finds that approximately one percent of superintendents and 7 percent of secondary principals are female, while 18 percent of elementary principals are female.

Pounder, therefore, suggests that while 10 percent of school administrators are female, the largest portion of these women are clustered into few specific low paying administrative positions and that this position segregation may account for a significant portion of the male-female salary differential.

MALE-FEMALE SALARY DIFFERENTIALS IN HIGHER EDUCATION

At this point it is appropriate to turn to the consideration of male-female salary differentials in the compensation of teachers in higher education. So far, it appears that research dealing with male-female salary differentials in higher education has produced a diversity of results as in the case for elementary and secondary levels. Some studies have found that salary inequality between male and female faculty in higher education is about the same as in other occupations (Noe, 1986). Other studies have found a significant narrowing if not very low male-female salary differentials in higher education (Maryland State Board of Education, 1978).

Cohn (1979) has also extensively reviewed the results of several studies pertaining to male-female salary differentials in higher education and has found that, in general, the data indicates a narrowing of the male-female gap over time (Faber, 1977; Johnson and Stafford, 1977). In particular, Cohn (1979) has criticized studies that have found a large male-female salary differential attributed to

sex discrimination (Hoffman, 1976; Strober and Quester, 1977).

The study of Hoffman (1976), for example, used data from the University of Massachusetts and shows that sex discrimination is responsible for up to 68 percent of the male-female salary differential (Cohn, 1979). This procedure, according to Cohn (1979), is questionable because Hoffman (1976) did not include all the factors in the formula and such exclusion of relevant factors greatly reduces the apparent male-female differences. The other critique of Hoffman is that it is first not obvious that differences in the promotion of male and female administrators are due to discrimination (Cohn, 1979). In addition, Cohn says that Hoffman (1976) calculates the residual (the amount of salary not explained by the set of explanatory variables) for separate equations run for males and females and then incorrectly assumes that any resulting differences in male-female average characteristics, when the same salary structure is used for both groups, is due to sex discrimination.

In juxtaposition to the study of Hoffman (1976), Cohn supports the findings of Johnson and Stafford (1974, 1977) who observe a substantial male-female salary gap not necessarily attributed to sex discrimination. Cohn finds that the 1974 study of Johnson and Stafford suggests that the sex differential in higher education may be attributed either to acquired skills and productivity between men and women or

to sex discrimination. This study, according to Cohn, further finds that male-female salary differences are smallest (between 4 to 11 percent) after the receipt of one's degree but then grows widely over 5-15 years after the receipt of a degree, the years when child care is most prevalent. However, Cohn points out that Johnson and Stafford (1974) support the view that, beyond 15 years male-female salary differentials are likely to narrow. Cohn says that, unlike, Hoffman (1976), Johnson and Stafford (1977) calculate that human capital factors account for a large portion of the male-female salary differential although some portion of the salary differential can be attributed to sex discrimination. At the same time, Strober and Quester (1977), as Cohn indicates, support Hoffman's (1976) findings and argue that the human capital argument for the male-female differential is incorrect.

OCCUPATIONAL SEGREGATION IN HIGHER EDUCATION

In higher education as in education administration at the elementary and secondary levels an occupational segregation has also been observed. This occupational segregation may be related to male-female salary differentials among higher education administrators (Etaugh, 1985; Maryland State Board of Education, 1978). The study of Etaugh (1985) focuses on changes during 1972-1984 in the status of women faculty and administrators in higher education. This study finds that while the proportion of

women in higher education has increased over the years, women are still concentrated in a small number of fields including English, foreign languages, nursing, home economics, fine arts, library science, etc. According to Etaugh, the proportion of women is least at universities, greater at four year colleges, and greatest at two year colleges.

Further, Etaugh (1985) finds that women in higher education are paid less than are male faculty, are less likely to be tenured, advance through academic ranks more slowly than do men, and tend to be concentrated in the lower ranks. Etaugh (1985) posits that for women who have been in academic the longest, the salary discrepancy with men is the greatest. The greatest salary discrepancy which Etaugh (1985) discerns form the data is in fields such as chemistry and the biological sciences. As in the case of female administrators in the public schools system discussed above, this study finds that in higher education as well women administrators are under represented in high level positions especially at the public co-educational institutions, and are paid less then men.

COMPARABLE WORTH AND ELIMINATION OF SALARY DIFFERENTIALS

At this stage it is useful to draw attention to the studies pertaining to the efforts of researchers and those concerned about male-female salary differentials. In the attempt to eliminate the salary gap between the earnings of men and women comparable worth and pay equity issues have

been analyzed by several researchers (Budig, 1986; Smith, 1985). In these studies comparable worth is generally defined as a policy of equal pay for work of comparable value. Here again, researchers have provided varied interpretations and findings about how comparable worth policy can or cannot bring about pay equity between the sexes and help to eliminate male-female salary differentials.

With regard to pay equity and comparable worth policies, numerous studies have emphasized the advantage and disadvantages of comparable worth. According to Budig (1986), advantages of comparable worth include: the elimination of alleged wage discrimination; the rejection and reversal of historical stereotypes that have undervalued women's jobs. Other advantages of comparable worth include: 1) improved morale among female employees' groups; 2) the bridging of the gender gap in earnings; and 3) the promotion of fair pay and fair play. One of the disadvantages associated with comparable worth, as Budig (1986) points out, is the absence of a single standard of how to measure work of comparable value. In other words, it is argued that not two systems of comparable worth are the same because all job evaluation systems rely on subjective judgements of the raters and may be no more objective than traditional classification systems.

The other aspect of comparable worth which several researchers and economists regard as a disadvantage is what they see as the high costs associated with the implementation

of comparable worth policy. Smith (1985), for example, says that in his study he has calculated that the extension of comparable worth to federal civil service carries a price tag of 1.5 billion and to the entire economy over 50 billion dollars. The study of Smith (1985) and others in that category find additional disadvantages associated with comparable worth and argue that comparable worth: 1) may be divisive among employees' groups; 2) opens up an affinity of comparisons and potential for litigation; 3) complicates negotiation with all groups; 4) could lead to lower salaries for males and create losers and winners among the very people it aims to help; and 5) is a wrong remedy, bad science, bad public policy because it will impede the proper allocative function that prices play in labor markets of a free market economy thereby reducing employment and national income.

SUMMARY AND CONCLUSION

To conclude, it is important to provide a summary which ties together all the issues discussed above with regard to the salary gap between the average earnings of men and women in educational compensation. A careful analysis of the findings of studies on men-female salary differentials reveals the fact that indeed the verification of the extent of the wage discrimination against women has proven to be a complex and cumbersome task with inconclusive results although the research data suggests that a form of subtle sex

discrimination does exist. It appears that the efforts of researchers in explaining the exact percentage of the sex differential due to discrimination have given us inconclusive results because in most studies no one is ever able to enter all the significant variables in an analysis so that one can specify with 100 percent certainty the portion of the sex differential which is specifically due to sex discrimination. In this context, Ott (1982) suggests that most conclusions drawn form studies about the salary gap between the male-female earnings indicating a percentage of the sex differential due to discrimination should be considered as only tenuous. Much remains to be done to improve the tools of measurement such as the multiple regression technique and to find ways to include all significant factors in the analysis so that an accurate measurement of sex discrimination can be attained.

It is important, however, to emphasize that in analyzing the articles on the subject of sex differentials in educational compensation several problems can be discerned which contribute to the difficulty in measuring the exact portion of the sex differential due to sex discrimination. For example, many findings of studies on sex discrimination are skewed because they are mostly based on aggregate data rather than on longitudinal data, while others are based on limited case studies whose results are often questionable especially when attempts are made to generalize from them to other situations. The other difficulty which is associated

with studies on sex differentials in compensation is the problem of comparison of male-female earnings because of the low number of women in occupations in which men are traditionally clustered and vice versa. The unequal representation of the sexes in the same occupations and ranks presents statistical problems in many areas. Of equal importance is the need to determine the exact impact of what has been described as shorter lifetime earnings of women on the male-female salary differential.

Finally, it should be pointed out that there seems to be a need to pay closer attention to comparable worth and pay equity policies especially in light of the fact that gender related inequality in compensation does exist, and that several studies have already noted that similar policies such as affirmative action legislation of the 1970's have contributed to some of the decline of labor market discrimination (Baugh and Stone, 1982: Freeman, 1973). Overall, it is safe to argue that the data, so far, shows that some progress has been made with regard to the increase of average earnings of women which have always lagged behind that of men. Smith (1985) has documented the progress which has been made in bridging the general sex differential in earnings over the years by noting a 20 percent increase in women's average earnings. It is also encouraging to observe that several studies indicate an ever increasing participation rate of women in the work force and that an increasing number of women, in education and other sectors of

the economy and in certain occupational ranks, do receive equal pay with men. However, the persistent male-female salary differentials in education and in the economy as a whole indicate that much needs to be done to equalize the earnings of males and females. Therefore, this article suggests that some measures which can be taken in order to work toward the elimination of the male-female salary gap could include the following: 1) increased job skills for women; 2) increased educational attainment for women; 3) elimination of job segregation by promoting women with experience to higher occupational ranks and by training women in critical fields of employment where they are already underrepresented. If these and other measures could be carried out perhaps the 60 percent male-female salary gap in educational compensation and in other sectors of the economy can be reduced to a small percentage, if not eliminated completely in the near future.

References

Baugh, William H. and Stone, Joe A. (1982). Sex differences in educator labor market. Final Report. Oregon University , Eugene Center for Educational Policy Management. National Institute of Education. Washington, D.C., Dec.

Budig, Jeane E. (1986). Comparable worth and the office of institutional research. AIR, Annual Forum Paper, June. Papers Presented at the Annual Forum of the Association for Institutional Research (26th Orlando, Florida, June 22-25. Eric Microfiche: ED 280 401.

Cohn, Elchanan. (1979). The economics of education. Cambridge, MA: Bellinger. Chapter 9, pp. 207-255.

De Tray, D. N. and Greenberg, D. H. (1977). On estimating sex differences in earnings. Southern Economic Journal, Vol. 44: pp. 348-353.

Etaugh, Claire. (1985). Changes in the status of women faculty and administrators in higher education since 1972. Paper Presented at the Annual Meeting of American Educational Research Association. (69th, Chicago, Ill., March 31 - April 4. Eric Microfiche: ED 254 181.

Farber, S. (1977). The earnings and promotion of women faculty: Comment. American Economic Review, March, Vol. 67: pp. 199-206, (March).

Freeman, R. B. (1973). Decline of labor market discrimination and economic analysis. American Economic Association, Vol. 63: pp. 280-286, (May).

Gupta, Nina. (1983). Barriers to advancement of women in educational administration: Sources and remedies. Southewest Educational Development Lab (Austin, Texas), (March), Eric Microfiche: ED 257 204.

Hengstler, Dennis D. et al. (1982). Salary equity studies: The state of the art. Ashe Annual Meeting. Paper Presented at the Annual Meeting of the Association for the Study of Higher Education. Washington D.C., (March), Eric Microfiche: ED 219 043.

Hoffman, E. P. (1976). Faculty salaries: Is there discrimination by sex, race and discipline? Additional evidence. American Economic Review, Vol. 66: pp. 196-198, (March).

Johnson, G. E. (1974). The earnings and promotion of women faculty: Reply. American Economic Review, Vol. 64: pp. 888-903, (December).

Johnson, G. E. (1977). The earnings and promotion of women faculty: Reply. American Economic Review, Vol. 67: pp. 214-217.

Johnson, G. E. and Stafford, F. P. (1974). Lifetime earnings in a professional labor market: Academic Economists. Journal of Political Economy, Vol. 82: pp. 549-570, (May).

Kahne, H. and Kohen, A. I. (1975). Economic perspective on the role of women in the American economy. Journal of Economic Literature, Vol. 13: pp. 1249-1274.

Levin, H. M. (1970). A cost-effectiveness analysis of teacher selection. Journal of Human Resources, Vol. 1: pp. 24-33.

Malkiel, B. G. and Malkiel, J. A. (1973). Male-female pay differentials in professional employment. American Economic Review, Vol. 66: pp. 693-705, (September).

Maryland State Board of Education. (1978). Study of salary between male and female faculty members of the state of Maryland Public 4 year Institutions. Eric Microfiche: ED 158 685.

Milkovich, G. T. (1981). The emerging debate. In E. R. Livernash (Ed.). Comparable worth issues and alternatives. Washington D.C. Equal Employment Advisory Council. pp. 25-47.

Noe, Nicholas N. (1986). Measures of salary inequality. AIR, Annual Forum Paper Presented at the Annual Forum of the Association for Institutional Research (26th, Orlando, Florida. June 22-25. Eric Microfiche: ED 280 423.

Oaxaca, R. L. (1973). Male-female wage differentials in urban labor markets. International Economic Review, Vol. 14: pp. 693-709, (October).

Ott, Mary Diederich et al. (1982). Comparison of faculty salary levels of men and women possessing the doctorate at the University of Maryland, College Park (1981 and 1982 salaries). Eric Microfiche: ED 235 718.

Pounder, Diana. (1985). Administrative compensation: A preliminary investigation of the male-female salary differential. February. Paper Presented at the Annual Meeting of the Southwest Educational Research

Association, (Austin, Texas). January 31st - February 1st. Eric Microfiche: ED 283 236.

Smith, James P. (1985). The wage gap and comparable worth. The Rand Corporation, Santa Monica, California. Testimony Given to Invited Members of the US Senate Staff. (Washington D.C. March, 26, 1985. Eric Microfiche: 275 601.

Stone, Joe A. (1985). Determinants of Administrators' salaries in public schools: Differences for men and women. Economics of Education Review, Vol. 4 (2): pp. 105-109.

Strober, M. H. and Quester, A. O. (1977). The earnings and promotion of women faculty: Comment. American Economic Review, Vol. 67: pp. 207-213, (March).